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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/602,355	06/23/2003	Leonard N. Schiff	010129U1	1702
23596 7590 03/29/2012 QUALCOMM INCORPORATED 5775 MOREHOUSE DR. SAN DIEGO, CA 92121				
EXAMINER				
CHAN, RICHARD				
ART UNIT		PAPER NUMBER		
2618				
NOTIFICATION DATE		DELIVERY MODE		
03/29/2012		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

us-docketing@qualcomm.com

**Office Action Summary****Application No.**

10/602,355

**Applicant(s)**

SCHIFF, LEONARD N.

**Examiner**

RICHARD CHAN

**Art Unit**

2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 September 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 5) ☒ Claim(s) 1,2,5,7-12,16,18-22,26-29,31 and 32 is/are pending in the application.
- 5a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 6) ☒ Claim(s) 1,2,5,7-12,16,18-22,26,27,32 and 33 is/are allowed.
- 7) ☒ Claim(s) 28, 29, and 31 is/are rejected.
- 8) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 9) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)  
Paper No(s)/Mail Date \_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

**DETAILED ACTION**

1. Applicant's arguments, see remarks filed 09/23/2011 with respect to the rejection(s) of claim(s) 1, 5, 7-12, 16, and 18-22 under 35 USC 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of claim Becker (US 5,504,785).

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 28, 29, and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Becker (US 5,504,785).

Regarding claim 28, Becker discloses the apparatus, comprising:

means for receiving a filter parameter at a satellite in orbit; (Col.1 line 49-61; & Col.5 line 34-47; satellite polyphase filter can be adjusted based on controllable digital resampled signal.)

means for receiving an input signal at the satellite;(Col.1 line 49-61)

means for programming a filter in the satellite to separate a plurality of sub-signals from the input signal based on the filter parameter; (Col.5 line 18-24; selectable low pass filter 42 used to achieve different modes)

means for receiving an original signal at the satellite, said the original signal having a first center frequency and a first bandwidth; (Col.7 line 50- 54) and

means for down-converting the original signal to the input signal, said the input signal having a second center frequency equal to one-half of the bandwidth plus a frequency margin, and said the input signal having the first bandwidth. (Col.7 line 54-59; frequency step size is preferably equal to one half the filters bandwidth)

Regarding claim 29, Becker discloses the apparatus of claim 28, further comprising: means for filtering the input signal into the plurality of sub-signals as programmed based on the filter parameter; (Col.6 line 9 - 27; interpolators 80 of polyphase filter bank 82) means for translating the plurality of sub-signals into an output signal; and means for transmitting the output signal from the satellite. (Col.6 line 15-21;

Regarding claim 31, Becker discloses the apparatus of claim 28, further comprising: means for receiving a first signal at the satellite, said the first signal having a bandwidth; (Col.1 line 49-61)

means for down-converting the first signal to a first intermediate frequency (IF); (Col.4 line 6-13;

means for filtering the down-converted first signal so as to produce a plurality of N intermediate signals each of the intermediate signals having  $1/N$  of the bandwidth; (Col.6 line 22- 39;) and

means for down-converting each of the intermediate signals to a plurality of component signals, said the plurality of component signals including the input signal, each of the component signals having a high frequency equal to  $1/N$  of the bandwidth plus a frequency margin, and each of said the component signals having  $1/N$  of the bandwidth. (Col.6 line 9 - 27; interpolators 80 of polyphase filter bank 82)

***Allowable Subject Matter***

4. Claims 1, 2, 5, 7-12, 16, and 18-22 26, 27, and 32-33 are allowed.

5. The following is an examiner's statement of reasons for allowance:

Regarding claim 1, independent claims 1 and 12, the prior art teaches a method and apparatus, comprising: receiving a filter parameter at a satellite in orbit receiving an input signal at the satellite and programming a filter in the satellite to separate a plurality of sub-signals from the input signal based on the filter parameter and filtering the input signal into the plurality of sub-signals as programmed based on the filter parameter translating the plurality of sub-signals into an output signal and transmitting the output signal from the satellite.

However, the prior art does not specifically teach wherein translating the plurality of sub-signals into an output signal, wherein translating the plurality of sub-signals comprises: multiplying the first sub-signal by a first number to produce a first amplified signal; multiplying the second sub-signal by a second number to produce a second amplified signal, the second number being different from the first number; and adding the first amplified signal and the second amplified signal.

Claims 2, 5, 7-11, 16, and 18-22 are dependent on independent claims 1 and 12.

Regarding independent claims 26, 32, and 33 the cited prior art does not teach or fairly suggest of a method and/or apparatus of operating a communications system, comprising: establishing a first portion of a frequency bandwidth to be received and processed by a satellite as a forward uplink, and a second portion of the frequency bandwidth to be received and processed by the satellite as a return uplink, the first and second portions comprising the total of the frequency bandwidth; monitoring traffic volume on each of the forward and return uplinks;

determining a third portion of the frequency bandwidth to be received and processed by a satellite as a forward uplink, and a fourth portion of the frequency bandwidth to be received and processed by the satellite as a return uplink, the third and fourth portions comprising the total of the frequency bandwidth;

transmitting instructions to the satellite, the satellite including circuitry responsive to the transmitted instructions, such that the amount of frequency bandwidth allocated to

the forward and return uplinks is allocated in proportion to the monitored traffic volume on each of the forward and return uplinks.

Claims 27 is dependent on allowable independent claim 26.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

#### ***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to RICHARD CHAN whose telephone number is (571)272-0570. The examiner can normally be reached on Mon-Fri 10AM-6PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Temesghen Ghebretinsae can be reached on 571-272-3017. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/RICHARD CHAN/  
Examiner, Art Unit 2618  
3/23/2012

/TEMESGHEN GHEBRETINSAE/  
Supervisory Patent Examiner, Art Unit 2618  
3/21/12D